

WHAT IS CLAIMED IS:

1. A system for storing data accessed from a host, comprising:
 - a plurality of disk devices, the plurality of disk devices storing data;
 - an Input/Output (I/O) detector, the I/O detector accepting an I/O request to a logical volume from a host, the capacity of said logical volume managed by an operating system (OS) in a host being larger than a capacity of a physical storage area actually allocated to said logical volume; and
 - an I/O processor, said I/O processor performing an I/O process according to said I/O request.
2. The system according to claim 1, further comprising a capacity controller, the capacity controller allocating a physical storage area to a logical volume, said capacity controller allocating an additional physical storage area to said logical volume according to said I/O request when said I/O detector receives an I/O request to a logical volume whose capacity is larger than a capacity of physical storage area actually allocated to said logical volume.
3. The system according to claim 2, wherein said capacity controller returns an error when an additional physical storage area for allocating to said logical volume does not exist in said system.
4. The system according to claim 2, wherein said I/O detector interprets a logical block address of an access target included in said I/O request and decides whether a physical storage area corresponding to said logical block address is actually allocated to said logical volume or not, said

capacity controller allocating an additional physical storage area to said logical volume if a physical storage area corresponding to said logical block address is not actually allocated to said logical volume.

5. The system according to claim 4, said I/O processor writing data to said additional physical storage area according to said I/O request.

6. A system for storing data accessed from a host, comprising:
a plurality of disk devices, said plurality of disk devices storing data;
and
a capacity controller, said capacity controller executing a capacity reduction process of a logical volume,
wherein said capacity controller receives a capacity reduction request including a reduction size of storage area from a host computer, selects a physical storage area to be deleted from a logical volume according to said reduction size, deletes the selected physical storage area from the logical volume creating a capacity reduced logical volume, and calculates an end logical block address of the capacity reduced logical volume according to said reduction size.